



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/480,724      | 01/07/2000  | ROBERT CAREY         | 12640US01           | 4660             |

7590 04/29/2004

MCANDREWS HELD & MALLOY LTD  
500 WEST MADISON STREET  
34TH FLOOR  
CHICAGO, IL 60606

|          |
|----------|
| EXAMINER |
|----------|

DASS, HARISH T

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3628

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/480,724

Applicant(s)

CAREY ET AL.

Examiner

Harish T Dass

Art Unit

3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 20-39 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-39 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

Claims 40-41 are canceled.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 20-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within

Art Unit: 3628

the technological arts under the Toma test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See Ex parte Bowman, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, Claims 20-39 have no connection to the technological arts. None of the steps indicate any connection to a computer or technology.

Therefore, the claims are directed towards non-statutory subject matter. To overcome this rejection the Examiner recommends that Applicant amend the claims to better clarify which of the steps are being performed within the technological arts; for example: "computer is used to calculate average ..."

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Shaughnessy U.S. Patent 6,317,726 in view of "India: Financial ratios: Making sense of the numbers, Businessline; Islamabad; Dec 26, 1999" (hereinafter Businessline).

Re. Claims 20 and 42, O'Shaughnessy substantially discloses the present invention where computer is used to analyze stock market historical database and evaluate how does capitalization affects stocks' (securities) performance and to select corporate stocks (securities) based on certain criteria, sorting (ranking) records to identify stocks (securities) which meet the criteria, and portfolio returns can be determined by number factors (price-to-earning ratio, etc) and their combinations, additionally, discloses computer-readable medium [see entire document particular - Abstract; Figures 1-17; C1 L15-L62; C2 L9-L15; C6 L36-L55; C9 L23-L26; C11 L15-L18; C12- L58-L65; claims], calculating price appreciation for each of said available securities [Abstract; C1 L29-L31; C9 L27-L32], calculating a price to cashflow ratio for each of said available securities [C1 L29-L31; C5 L19-L24; C10 L55-L56], ranking (sort) at least some of the available securities according to said price appreciation, said price to cashflow ratio and "All value factors" (which suggests "return on assets ratio" included) to form a group of ranked securities [C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14], and selecting at least some of the ranked (sorted) securities to form a group of selected securities [Fig. 7; C9 L1 to C10 L62; C14 L17-L19]. O'Shaughnessy , explicitly, does not disclose calculating a return on assets ratio for each of said available securities. However, Businessline discloses the step to find out the extent of profitability of scrip (securities) [entire article]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to combine the teaching of O'Shaughnessy and Businessline to pickup the best rated scrip (securities) in its peer group with highest evaluation with highest return.

Re. Claim 21, O'Shaughnessy discloses selection of 50 stocks, but explicitly, does not disclose wherein said group of available securities comprises 100 stocks of the Nasdaq 100 index. However, Nasdaq 100 index is well known and is not inventive step. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of O'Shaughnessy and include selection of securities comprises 100 stocks of the Nasdaq 100 index to provide enhanced diversification of securities basket.

Re. Claim 22, O'Shaughnessy substantially discloses averaging and sorting, ranking the available securities according to said price appreciation so that each of said available securities is assigned one or more price appreciation ranks [C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14], ranking the available securities according to said return on assets ratio (see "All value factors) so that each of said available securities is assigned a separate return on assets ratio rank [C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14], ranking said available securities according to said price to cashflow ratio so that each of said available securities is assigned a separate price to cashflow rank [C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14], and determining for each of said available securities an average rank comprising the average of the one or more separate price



Art Unit: 3628

appreciation ranks, separate return on assets ratio rank and separate price to cashflow ratio rank for said security [abstract; C2 L9-L24; C3 Table 1; C13 L46-L47].

Re. Claim 23, O'Shaughnessy substantially discloses average and ranking, and wherein said calculating price appreciation comprises calculating a first rate of price appreciation over a first predetermined time period (one-year) and a second rate of price appreciation over a second predetermined time period (six month) different than said first predetermined time period, wherein said ranking the available securities according to said price appreciation comprises ranking the available securities according to said first rate so that each of said available securities is assigned a separate first rate rank and ranking the available securities according to said second rate so that each of said available securities is assigned a separate second rate rank and wherein said determining comprises determining for each of said available securities an average rank comprising the average of the separate first rate rank, the separate second rate rank, the separate return on assets ratio rank (see "All value factors") and the separate price to cashflow ratio rank [see Re. claim 20 and C13 L31-L41; C1 L29-L31; C9 L27-L32; C5 L19-L24; C10 L55-L56; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46].

Re. Claim 24, O'Shaughnessy substantially discloses sorting (ranking), wherein said ranking consists only ranking at least some of the available securities according to said price appreciation, said return on assets ratio and said price to cashflow ratio [C1 L29-

Art Unit: 3628

L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14].

Re. Claim 25, O'Shaughnessy discloses wherein said ranking comprises ranking at least some of the available securities according to capitalization of said available securities [Fig. 7; C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14].

Re. Claim 26, O'Shaughnessy discloses wherein said selecting comprises selecting a predetermined number of said ranked securities [Fig. 7; C1 L29-L31; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46; C15 Table 17-1, Tables 13A & 14].

Re. Claim 27, O'Shaughnessy discloses wherein said predetermined number is 15 or less [C2 L19; C15 L29].

Re. Claim 28, O'Shaughnessy discloses wherein said calculating price appreciation comprises calculating a first rate of price appreciation over a first predetermined time period [see Re. claims 20, 23 and C13 L31-L41; C1 L29-L31; C9 L27-L32; C5 L19-L24; C10 L55-L56; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46].

Re. Claim 29, O'Shaughnessy discloses calculating a first rate of the price history of each of the available securities over said first time period [see Re. claim 28].

Art Unit: 3628

O'Shaughnessy, explicitly, does not disclose use of regression analysis. However, use of regression analysis is well known and is not an inventive step. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of O'Shaughnessy to use regression analysis to develop a statistical model to predict the values dependent variable based on value of at least one independent variable.

Re. Claim 30, O'Shaughnessy discloses wherein said calculating price appreciation further comprises calculating a second rate of price appreciation over a second predetermined time period different from said first predetermined time period [see Re. claims 20, 23 and C13 L31-L41; C1 L29-L31; C9 L27-L32; C5 L19-L24; C10 L55-L56; C9 L27-L31; C10 L55-L56; C14 L17-L19; C18 L12-L46].

Re. Claims 31 and 32, they are rejected on the same rationale of claim 29.

Re. Claim 33, O'Shaughnessy discloses purchasing at least some of said group of selected securities to form a group of purchased securities [C15 L29]

Re. Claim 34, O'Shaughnessy discloses wherein said purchased securities are weighted by market capitalization [C3 L19-L34].

Art Unit: 3628

Re. Claim 35, O'Shaughnessy discloses wherein said method further includes creating a unit investment trust (S&P 500 which is a trust and holds a portfolio of securities) comprising said purchased securities [Abstract; C2 L9-L20].

Re. Claim 36, O'Shaughnessy discloses wherein said unit investment trust has a life of 13 months or more [C2 L43-L61].

Re. Claims 37-39, O'Shaughnessy discloses wherein said method further includes creating a pooled investment vehicle (stocks) comprising said purchased securities. However, O'Shaughnessy explicitly does not disclose variable annuity and investment accounts. These investment vehicles such as pensions account (IRA), insurance, mutual fund account, etc are well known investment vehicles. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of O'Shaughnessy and include purchasing annuity and creating investor accounts to diversify and pool additional investment (pool) to increase market capitalization.

***Response to Arguments***

Not Applicable. No argument if filed.

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR ' 1.111 (c) to consider the references fully when responding to this action.

*NASDAQ TRADERS "Nasdaq-100 Updates", Dec. 4, 1998, discloses change in calculation of The Nasdaq-100 Index effective at market close on Dec. 18, 1998 (total of 3 pages).*

*Network Solutions "Network Solutions Named to Nasdaq 100 Index Begins Trading on Index Monday, December 20, 1999", Dec. 14, 1999, discloses Nasdaq 100 Trust a \$4 billion Trust and Internet technology services.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harish T Dass whose telephone number is 703-305-4694. The examiner can normally be reached on 8:00 AM to 4:50 PM.

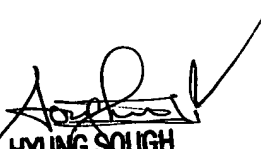
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S Sough can be reached on 703-308-0505. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Harish T Dass H 70  
Examiner  
Art Unit 3628

4/26/04

  
HYUNG SOUGH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600